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APPLICATION

FOR UNITED STATES LETTERS PATENT

SPECIFICATION

TO ALL WHOM IT MAY CONCERN:

BE IT KNOWN THAT I, **Allan R. Mosher**, a citizen of the United States, have
invented a new and useful pneumatic gun alignment system of which the following is a
specification:

1
2
3 **Pneumatic Gun Alignment System**
4
5

6 **CROSS REFERENCE TO RELATED APPLICATIONS**

7 Not applicable to this application.
8
9

10 **STATEMENT REGARDING FEDERALLY**
11 **SPONSORED RESEARCH OR DEVELOPMENT**

12 Not applicable to this application.
13
14

15 **BACKGROUND OF THE INVENTION**
16
17
18

19 **Field of the Invention**
20

21 The present invention relates generally to gun supports and more specifically it
22 relates to a pneumatic gun alignment system for accurately adjusting a gun position.
23
24

25 **Description of the Related Art**
26

27 Gun supports have been in use for years for assisting shooters with aiming their
28 firearms. A typical gun support (12) is shown in Figures 4a through 5c of the
29 drawings. A typical gun support has a base with a threaded shaft threadably extending

1 vertically from within base and a support platform that supports the firearm. The gun
2 support may be utilized on the front or the rear of the firearm to adjust the angle of the
3 firearm. Sandbags and similar devices are positioned upon the support platform for
4 providing additional adjustment of the firearm.

5
6 The main problem with conventional gun supports is that they require the user
7 to rotate the threaded shaft to adjust the vertical position of the support platform
8 thereby disrupting the shooter's concentration. Another problem with conventional
9 gun supports is that they do not accurately adjust the attitude of the gun for shooting.

10
11 While these devices may be suitable for the particular purpose to which they
12 address, they are not as suitable for accurately adjusting a gun position. Conventional
13 gun supports do not accurately or conveniently allow for the adjustment of the rifle for
14 aiming at a target.

15
16 In these respects, the pneumatic gun alignment system according to the present
17 invention substantially departs from the conventional concepts and designs of the prior
18 art, and in so doing provides an apparatus primarily developed for the purpose of
19 accurately adjusting a gun position.

1

2 **BRIEF SUMMARY OF THE INVENTION**

3

4 In view of the foregoing disadvantages inherent in the known types of gun
5 supports now present in the prior art, the present invention provides a new pneumatic
6 gun alignment system construction wherein the same can be utilized for accurately
7 adjusting a gun position.

8

9 The general purpose of the present invention, which will be described
10 subsequently in greater detail, is to provide a new pneumatic gun alignment system
11 that has many of the advantages of the gun supports mentioned heretofore and many
12 novel features that result in a new pneumatic gun alignment system which is not
13 anticipated, rendered obvious, suggested, or even implied by any of the prior art gun
14 supports, either alone or in any combination thereof.

15

16 To attain this, the present invention generally comprises a support bag having
17 an air bag positionable beneath a firearm, and an air supply fluidly connected to the air
18 bag for supplying pressurized air to the air bag. A valve unit is preferably positioned
19 within the hose for allowing the user to slowly release air from the air bag and for
20 maintaining a desired amount of air within the air bag. The user increases the air
21 pressure to elevate the firearm and decreases the air pressure to lower the firearm.

22

23 There has thus been outlined, rather broadly, the more important features of the
24 invention in order that the detailed description thereof may be better understood, and
25 in order that the present contribution to the art may be better appreciated. There are
26 additional features of the invention that will be described hereinafter and that will form
27 the subject matter of the claims appended hereto.

28

29 In this respect, before explaining at least one embodiment of the invention in

1 detail, it is to be understood that the invention is not limited in its application to the
2 details of construction and to the arrangements of the components set forth in the
3 following description or illustrated in the drawings. The invention is capable of other
4 embodiments and of being practiced and carried out in various ways. Also, it is to be
5 understood that the phraseology and terminology employed herein are for the purpose
6 of the description and should not be regarded as limiting.

7
8 A primary object of the present invention is to provide a pneumatic gun
9 alignment system that will overcome the shortcomings of the prior art devices.

10
11 A second object is to provide a pneumatic gun alignment system for accurately
12 adjusting a gun position.

13
14 Another object is to provide a pneumatic gun alignment system that does not
15 require the shooter to lose their concentration when adjusting a firearm.

16
17 An additional object is to provide a pneumatic gun alignment system that
18 allows the shooter to remain focused upon the target while simultaneously adjusting
19 the gun position.

20
21 A further object is to provide a pneumatic gun alignment system that may be
22 utilized in conjunction with conventional gun supports for aligning a rifle.

23
24 Another object is to provide a pneumatic gun alignment system that is
25 lightweight and compact in size.

26
27 Other objects and advantages of the present invention will become obvious to the
28 reader and it is intended that these objects and advantages are within the scope of the
29 present invention.

1

2 To the accomplishment of the above and related objects, this invention may be
3 embodied in the form illustrated in the accompanying drawings, attention being called
4 to the fact, however, that the drawings are illustrative only, and that changes may be
5 made in the specific construction illustrated and described within the scope of the
6 appended claims.

1
2 **BRIEF DESCRIPTION OF THE DRAWINGS**
3

4 Various other objects, features and attendant advantages of the present
5 invention will become fully appreciated as the same becomes better understood when
6 considered in conjunction with the accompanying drawings, in which like reference
7 characters designate the same or similar parts throughout the several views, and
8 wherein:
9

10 FIG. 1 is an upper perspective view of the present invention.
11

12 FIG. 2 is a cross sectional view taken along line 2-2 of Figure 1.
13

14 FIG. 3a is a side view of the present invention utilizing a hand pump.
15

16 FIG. 3b is a side view of the present invention utilizing a foot pump.
17

18 FIG. 3c is a side view of the present invention utilizing an air compressor.
19

20 FIG. 4a is a side view of the present invention adjustably supporting a front
21 portion of a gun in a deflated state.
22

23 FIG. 4b is a side view of the present invention adjustably supporting a front
24 portion of a gun in a partially inflated state.
25

26 FIG. 4c is a side view of the present invention adjustably supporting a front
27 portion of a gun in a inflated state.
28

1 FIG. 5a is a side view of the present invention adjustably supporting a rear
2 portion of a gun in an inflated state.

3
4 FIG. 5b is a side view of the present invention adjustably supporting a rear
5 portion of a gun in a partially deflated state.

6
7 FIG. 5c is a side view of the present invention adjustably supporting a rear
8 portion of a gun in a deflated state.

1
2 **DETAILED DESCRIPTION OF THE INVENTION**
3

4 **A. *Overview***

5 Turning now descriptively to the drawings, in which similar reference
6 characters denote similar elements throughout the several views, FIGS. 1 through 5c
7 illustrate a pneumatic gun alignment system **10**, which comprises a support bag **30**
8 having an air bag **32** positionable beneath a firearm **16**, and an air supply fluidly
9 connected to the air bag **32** for supplying pressurized air to the air bag **32**. A valve
10 unit **22** is preferably positioned within the hose **24** for allowing the user to slowly
11 release air from the air bag **32** and for maintaining a desired amount of air within the
12 air bag **32**. The user increases the air pressure to elevate the firearm **16** and decreases
13 the air pressure to lower the firearm **16**.
14

15 **B. *Support Bag***

16 Figures 1 through 5c illustrate the support bag **30**. The support bag **30** is
17 inflatable and is positionable beneath a firearm **16** (rear portion or front portion) for
18 adjusting the position of a firearm **16**. The support bag **30** may be comprised of
19 various structures other than illustrated in Figures 1 through 5c of the drawings.
20

21 As shown in Figure 2 of the drawings, the support bag **30** is preferably
22 comprised of an air bag **32** and a removable cover **34** surrounding the air bag **32**. The
23 air bag **32** is comprised of a flexible and non-permeable material, such as but not
24 limited to rubber, for retaining a volume of air under pressure. As shown in Figure 2
25 of the drawings, the air bag **32** has a relatively flat upper surface and relatively flat
26 lower surface when inflated.
27

1 The cover **34** is comprised of a permeable material such as but not limited to
2 cloth. The cover **34** is secured and closed about the hose **24** by a tie member **36**
3 thereby forming a neck structure as shown in Figure 1 of the drawings.

4
5 **C. Hose**

6 An elongate hose **24** is fluidly connected between the support bag **30** and an air
7 supply unit **20**. The elongate hose **24** is preferably flexible for allowing positioning of
8 the air supply unit **20** in various positions and locations.

9
10 **D. Valve Unit**

11 A valve unit **22** is preferably positioned within the hose **24** for allowing control
12 of airflow within the hose **24**. The valve unit **22** allows for closing of airflow from the
13 support bag **30** (i.e. thereby maintaining a desired air pressure within the support bag
14 **30**). The valve unit **22** also allows for releasing of airflow from the support bag **30**.
15 The valve unit **22** may be comprised of various valve structures commonly utilized.

16
17 **E. Air Supply Unit**

18 The air supply unit **20** is preferably a manually operated structure capable of
19 providing pressurized air such as but not limited to a hand operated or foot operated
20 device as shown in Figures 3a and 3b of the drawings. Alternatively, the air supply
21 unit **20** is a mechanically operated structure capable of providing pressurized air as
22 shown in Figure 3c of the drawings.

23
24 **F. Operation – Front Position**

25 In operation of the present invention positioned beneath a front position of a
26 firearm **16**, the support bag **30** is positioned beneath a front portion of a firearm **16** as
27 shown in Figures 4a through 4c of the drawings. The support bag **30** may be
28 positioned upon a conventional gun support **12** and/or sandbag **14** as shown in Figures
29 4a through 4c of the drawings. In addition, a sandbag **14** or other support may be

1 positioned beneath the rear portion of the firearm 16 as shown in Figures 4a through
2 4c.

3

4 If an increase in angle is required for the firearm 16, the user increases the air
5 pressure within the support bag 30 thereby expanding the support bag 30 and
6 increasing the vertical position of the front portion of the firearm 16 as shown in
7 Figures 4b and 4c of the drawings. The user increases the air pressure until the desired
8 angle of the firearm 16 is achieved.

9

10 If a decrease in angle is required for the firearm 16, the user decreases the air
11 pressure within the support bag 30 thereby reducing the size of the support bag 30 and
12 reducing the vertical position of the front portion of the firearm 16 as shown in Figure 4a
13 of the drawings. The user decreases the air pressure until the desired angle of the firearm
14 16 is achieved.

15

16 The valve unit 22 is closed when the desire angle for the firearm 16 is reached. The
17 user then fires the firearm 16 at the target when desired.

18

19 **G. Operation – Rear Position**

20 In operation of the present invention positioned beneath a rear position of a
21 firearm 16, the support bag 30 is positioned beneath a rear portion of a firearm 16 as
22 shown in Figures 5a through 5c of the drawings. A conventional gun support 12
23 and/or sandbag 14 may be positioned beneath the front portion of the firearm 16 as
24 shown in Figures 5a through 5c of the drawings.

25

26 If an increase in angle is required for the firearm 16, the user decreases the air
27 pressure within the support bag 30 thereby reducing the size of the support bag 30 and
28 decreasing the vertical position of the rear portion of the firearm 16 as shown in

1 Figures 5b and 5c of the drawings. The user decreases the air pressure until the
2 desired angle of the firearm 16 is achieved.

3
4 If a decrease in angle is required for the firearm 16, the user increases the air
5 pressure within the support bag 30 thereby expanding the size of the support bag 30 and
6 increasing the vertical position of the rear portion of the firearm 16 as shown in Figure 5a
7 of the drawings. The user increases the air pressure until the desired angle of the firearm
8 16 is achieved.

9
10 The valve unit 22 is closed when the desire angle for the firearm 16 is reached. The
11 user then fires the firearm 16 at the target when desired.

12
13 As to a further discussion of the manner of usage and operation of the present
14 invention, the same should be apparent from the above description. Accordingly, no
15 further discussion relating to the manner of usage and operation will be provided.

16
17 With respect to the above description then, it is to be realized that the optimum
18 dimensional relationships for the parts of the invention, to include variations in size,
19 materials, shape, form, function and manner of operation, assembly and use, are
20 deemed to be within the expertise of those skilled in the art, and all equivalent
21 structural variations and relationships to those illustrated in the drawings and
22 described in the specification are intended to be encompassed by the present invention.

23
24 Therefore, the foregoing is considered as illustrative only of the principles of
25 the invention. Further, since numerous modifications and changes will readily occur to
26 those skilled in the art, it is not desired to limit the invention to the exact construction
27 and operation shown and described, and accordingly, all suitable modifications and
28 equivalents may be resorted to, falling within the scope of the invention.

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